

The Current Experience and Activities with the PC25™ Fuel Cell Power Plant

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Abstract

ONSI Corporation is the manufacturer of the PC25 fuel cell power plant, which has been on the market since 1992. This 200kw power plant is a completed packaged unit and includes fuel processing, a phosphoric acid cell stack and the power conditioning system and controls necessary for stand-alone operation. It normally operates on natural gas, but is available for operation on propane, LPG, butane and low-methane gas from biomass or on two of these fuels. It is enclosed in a weatherproof enclosure and can be installed outdoors or indoors in nearly any environment. Over 700,000 Btu's of heat at two different temperature levels is also available, allowing an overall efficiency which can exceed 80%.

Over 200 of these power plants, which were developed by International Fuel Cells, have been delivered around the world, with a total operating time for the fleet in excess of 2.7 million hours. Currently, about 50% of the operating units are in the U.S., with the majority of the balance operating in Japan. The U.S. Department of Defense has purchased 30 PC25's for operation at a variety of DOD bases situated in every possible climatic zone within the U.S. A small number are currently operating in Europe and other Pacific Rim countries.

The longest operating power plant has achieved over 45,000 hours; the longest single run without a shutdown is in excess of 9500 hours. The PC25 is certified by the American Gas Association and is the only fuel cell certified for operation in New York City through a Materials and Equipment Acceptance (NMA). It is exempt from environmental permits in many regions due to the low level of emissions of NO_x, CO and organics.

Current applications for the PC25 include co-generation, the generation of power from waste gas from anaerobic digestion (e.g., sewage treatment plants), and assured power for computer centers or locations where the grid is unreliable or absent.

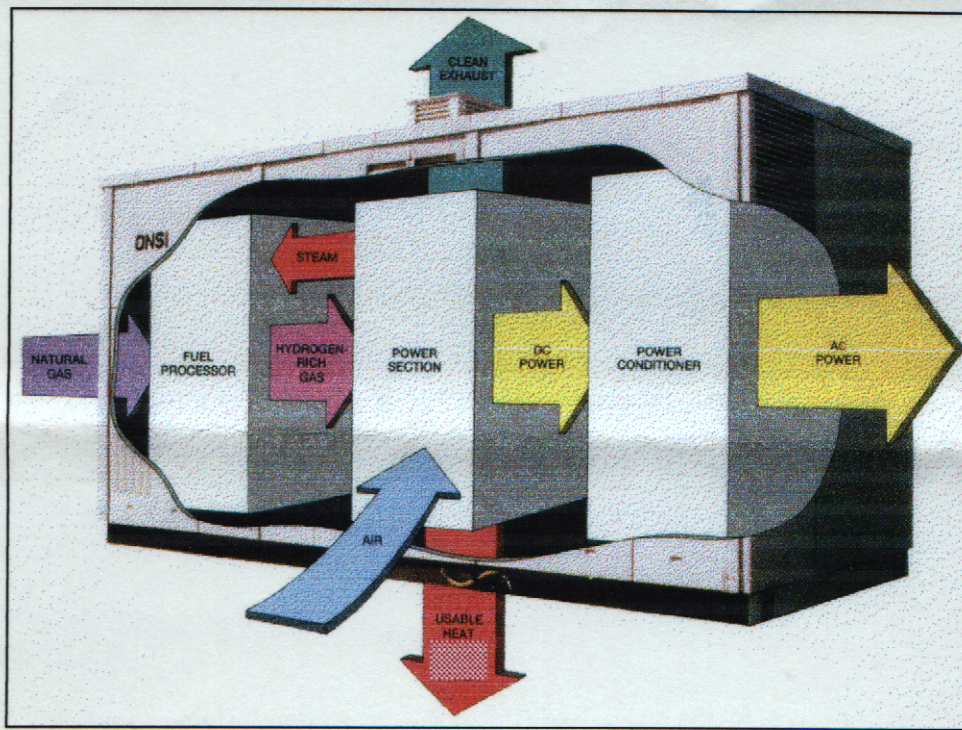


Figure 1 – The PC25 is a complete packaged power plant

GRID SUPPORT

Benefits

- Meet customer needs
- Allows for growth
- No "brown-outs"
- Avoid grid construction

Typical locations

- End of electric grid
- Undersized grid
- No grid



Central Park Police Station
New York, NY



FCI 1489-PPT
992707

Figure 2 – A typical installation of the PC25 at a wastewater treatment facility